defined only for grains sized 4.75 mm (number 4) and larger. This is because specifications only apply to 1 inch, ½ inch and the number 4 sieve sized grains. As shown in Figure 3.2, approximately 42 percent of the material was smaller than the No. 4 sieve and therefore was not subject to specification assembly. The coefficient of uniformity of the virgin material from the two quarries was estimated equal to 25 and the coefficient of curvature was approximately equal to 0.75.

The data plotted Figure 3.2 also include the grain size distribution for the two testing materials after the testing procedure has been completed. Comparing the before and after compaction distributions indicated no significant changes in the grain sizes were induced by compaction and handling for the Thomasville material, as shown in Figure 3.2. On the other hand, the Gold Hill material seems to have slightly broken down due compaction which resulted in a finer material distribution, especially for grain sizes smaller than 10 mm. The post compaction coefficient of uniformity of the Gold Hill material was estimated equal to 85 and the coefficient of curvature was approximately equal to 0.85.

3.3 Laboratory Test Equipment

Laboratory equipment included an automatic compaction hammer, two different sized molds, the Scala DCP, and a load frame for CBR. Laboratory testing was performed at the North Carolina Department of Transportation Materials and Tests Unit in Raleigh, NC.

The automatic compaction hammer is a Mechanical Compactor M100-2 with a solid state counter and a hammer weight of 41 kg. Figure 3.3 is a photograph of the compaction hammer used to compact the specimen in this program. Two molds were used to prepare laboratory specimen in this program. The smaller mold, 150 mm (6 in) in diameter was a standard CBR mold as designated by AASHTO T 193-93, *Standard Specification for the California Bearing Ratio.* The larger mold was 250 mm (10 in) in